Socio-Economic Level of Paddy Farmers under The Management of MADA: A Case Study in The Pendang District, Kedah

Fauzi Hussin*
AB. Wahab Mat
UUM College of Business, Universiti Utara Malaysia

*Corresponding author; email: fauzi@uum.edu.my

ABSTRACT

This paper employed survey data to identify socio-economic level and the problems faced by paddy farmers in Pendang district under the management of Muda Agricultural Development Authority (MADA), Kedah, Malaysia. A total of 150 respondents who are paddy cultivatiors in several villages were involved in this interview. The aim was to obtain information about demographics, income levels, problems and form of aid received. The results show that about 54 percent of farmers get net income more than RM1,000 per month. Many paddy farmers work on rented fields or lease from other owners. Approximately 78 percent of paddy farmers plant paddy as the main source of income with 56 percent of them have been in this job for more than 11 years. Slugs and rats are found to be the main types of paddy pests that have affected rice production every season. MADA management has given the help of subsidized fertilizers and pesticides to almost all the farmers under their management although a few farmers who received aid such as machinery, water pumps and financial aid.

Keywords: *Socio-economic, Paddy farmers, Kedah, Malaysia*

INTRODUCTION

The agriculture sector is the third most important economic contributors after the manufacturing and services sector. Paddy cultivation is the

source of income and creates employment in the rural population, as well as to reduce dependence on food imports (Barker, Herdt & Rose, 1985). Kedah is Malaysia's largest state in term of the paddy area compared to other states. The government's role is crucial to reduce the socio-economic gap, especially paddy farmers. The implementation of the National Agriculture Policy (1992-2010) aimed to integrate the agricultural sector in other key sectors.

The implementation of the policy is one way to improve the performance of the agriculture sector. MADA management needs to be improved through agricultural development programs. The government always strives to ensure the occurrence of a transformation from traditional agriculture to modern agriculture, commonly known as the Green Revolution. Green revolution which is the basis of reform of paddy cultivation through the introduction of machinery, package in the use of high production paddy variety with biochemical inputs such as fertilizers, herbicides, etc., supported by infrastructure facilities. Green Revolution is a technocratic style of development has led to a change in paddy farmers' socio-economic system. The master plan of the Northern Corridor Economic Region (NCER) was formed to outline the key strategies to stimulate growth in the agricultural sector associated with the rural population and traditional farmers. In addition to eliminating poverty among rural farmers, the master plan will also increase the average income of farmers from less than RM500 in 2005 to RM 1500 per month by 2012.

There are 40,000 hectares of paddy area of non-irrigated areas located outside the Muda Agricultural Development Authority (MADA) and the Integrated Agricultural Development Project (IADPs). As a result, farmers who own less than one hectare and cultivated with paddy once every season, their production was recorded less than three tonnes per hectare.

However, this situation differed with paddy farmers in the rural area under MADA development programs with various strategies that have been implemented to enhance socio-economic of the farmers. MADA development programs under the Green Revolution, including the program that produces high-quality paddy seeds and Estates Paddy, have reduced the socio-economic gap among paddy farmers in the rural area. In addition, MADA also provides credit and support services to farmers under MADA.

An introduction to MADA

Muda Agricultural Development Authority (MADA), established in 1970 has been given the responsibility to plan and undertake any agricultural development in the Muda area as required by the state of Kedah and Perlis. The main function of MADA is to implement efficient and effective agricultural services and irrigation infrastructure for the country's rice need, manage water resources efficiently and promote agro-based industries.

The total area that has been developed by MADA in Kedah and Perlis is 126, 155 hectares. For paddy planting activities, paddy cultivation area under MADA is 77, 882 hectares that is located in Kedah, while the remaining of 18, 676 hectares is located in Perlis. MADA function as agricultural development agency to ensure adequate water supplies for irrigated paddy cultivation, MADA constantly strives to find methods and technologies that can be adapted so that the water is always at an optimum level. MADA was given the responsibility to operate three dams namely Pedu Dam with reservoir capacity of 1, 073 million cubic meters, Muda Dam with reservoir capacity of 160 million cubic meters and Ahning Dam with a reservoir capacity of 275 million cubic meters.

Paddy Development Program, known as Project 10 Tonne paddy crop, was planned to implement 65, 000 hectares (67 per cent of paddy area) in the Muda project in 2010 by engaging 25,000 farmers. Paddy Estate under the management of MADA was implemented in 2007 which involved the cultivation area of 2,044 hectares of paddy. The aim was to increase the yield of 7.5 tons/ha and total paddy farming area of 20,000 hectares in 2010.

The rice harvest for season I and season II from 2004 to 2008 for the Pendang district is shown in Table 1 below.

Table 1

The Average of Paddy Yields for the Pendang District

Name of the village	**2004** (tons / ha)	**2005** (tons / ha)	**2006** (tons / ha)	**2007** (tons / ha)	**2008** (tons / ha)
Kg.Kedah	11.92	3.8	9.6	8.76	5.19

(continued Table 1)

Name of the village	**2004** (tons / ha)	**2005** (tons / ha)	**2006** (tons / ha)	**2007** (tons / ha)	**2008** (tons / ha)
Kg.Petani	12.05	3.8	11.9	10.15	5.71
Kg.Banggol Besi	11.93	4.4	12.9	8.89	5.70
Kg.Tanjung Radin	11.83	4.5	11.00	10.75	5.70
Sungai Durian	11.68	3.4	10.2	12.32	5.35
Banggol Basin		5.1	11.4	11.43	6.22
Kubang Teradeh			10.1	9.72	5.14
Paya Nedam			9.7	11.42	5.33
Padang Temucut				6.71	
Kg.Paya Kechut				9.54	
Kg.Banggol Tambak				8.84	
Charok Kudung				10.18	
Kg.Manjapahit				8.32	
Bukit Kechik				10.23	
Changkat Nering				9.6	
Tanjong Setol				8.89	
TOTAL	**11.882**	**4.167**	**10.215**	**9.73**	**2.77**

Source: MADA Pendang (2009)

LITERATURE REVIEW

According to Syed Ahmad Alhamdali (1986) productivity growth in the Muda irrigation area can be enhanced through improvements in infrastructure, particularly when water management and water resources are used efficiently on an ongoing basis. In addition, the aspects of water management, harvesting schedules, land management, as well as insect and disease management training should be emphasized.

A study by Abdul Wahid (1986) describes the concept paddy estate has led to modern technology through the Paddy Estate Management System, particularly in the FELCRA area. There are many problems and challenges that have been identified as barriers to Paddy Estate management, such as land provides, land leveling, supply of seeds, water control, weeds control, pests and diseases control, fertilizer practices, harvesting, transport and manpower.

Zaleha and Mohd Ariff (1986) states that in Malaysia, there is no difference between small-scale farmers and large-scale farmers in terms of economic efficiency, technical and allocative efficiency. Any efforts to merger fields will not be able to increase the rice production if farmers still using out date of technology.

Rice production problems in the Integrated Agricultural Development Project (IADPs) are similar in all areas. Some of the problems faced are fluctuations in rice production levels, poor infrastructure, labor issues, high production costs and small farm size (Zulkefli, 1986).

According to Mokhtar and Ismail (1986) paddy estate projects in the Muda Agricultural Authority (KADA) undertaken by Permodalan Kelantan Berhad (PKB) experienced problems such as land development and rehabilitation of infrastructure, access road machinery, rental of land, lack of foreign transplanters, lack of skilled labors, low productivity, lack of experienced contractors, lack of appropriate machinery, as well as low revenue and farmers' income.

Embi (1986) found that major constraints in the rice industry since independence until now are the results of low harvest (2.0 tons / hectare), lack of irrigation facilities, high rental rates and the size of fields that are not profitable. Progress in the development of various cultural practices, fertilizer application, control of diseases, and engineering are part of significant benefits. Modern technology that focuses on the efficient use of machines, reduce the loss of revenue and increase the efficiency of the fields is required in the future.

A study by Mohd Ariff and Narayan (1985) to identify the factors that determine the surplus rice production in Kathmandu district found that there are two main factors in determining the surplus rice production in the region such as rice production levels and family size. They found that family size is negatively related to rice production. The increase in family size leads to decrease the surplus production.

A study on paddy cultivation in Indonesia by Mohamad Maulana (2004) showed that the land area, crops capacity and productivity are

the sources of increasing rice production in Indonesia since 1980 until 2001. The study found that rice production over this period has been a sharp decline caused by land shortage and declining productivity.

Sumardjo (1999) also stated that successful farming has specific characteristics such as having knowledge in applying innovation to improve agricultural productivity, market-oriented production and ability to adapt the effort as a result of seasonal changes, new technologies, and market demand in the country or abroad.

Hamid and Shuib (1979) in explaining the socio-economic patterns of farmers in the Muda area has divided farmers into three major occupational groups namely (i) the group of paddy farmers, (ii) the nonpaddy farmers (rubber, etc.), and (iii) the mostly nonagricultural workers in the town. For the first group of paddy farmers, it can be divided into four subgroups namely owner-operators, tenant owners, tenants and farm laborers. Nonfarming group obtains the income of RM 5,416.00 per month, then followed by the owner-tenant paddy farmers of RM 3,212,00. Their study showed that about 22,000 families from the tenants and farm workers earn below the abject poverty line.

In addition to the factors that influence socio-economic disparities of income among paddy farmers' groups, factors such as lack of capital among farmers as an impetus to business failure (Masatsugu, 1972).

Suratiyah (1977) also stated that the dominant status of the land will influence the farmers in choosing some of the alternatives, especially in the use of new technologies to get more revenue or income.

A study by Abdul Aziz Rahman and Derendra Prasad Yadar (1990) found that the increase credit provided in provision of Beranang and Tanjung Karang lead to an increase in net income of farmers. The increase in credit supply showed a positive effect on farmers' income. Otherwise, improvement in technology resulting from a capital loan is insignificant.

METHODOLOGY

The data of this study collected from face to face interviews with respondents. The questions asked to the respondents were structured. A total of 150 farmers in the district Pendang were selected using

simple random. Most of the respondents are farmers in the village of Bukit Jambul, Alor Nan, Tempoyak, Banggol, and Bukit Penang, in the district Pendang, Kedah. Interviews for this survey consisted of several structured questions such as demographic information, area of fields, revenues, the problems faced and types of assistance provided by MADA.

Descriptive analysis was used to analyze the data which including the frequency and crosstabulation. For descriptive analysis, comparisons of min was conducted to describe the respondent characteristics, including financial assistance from MADA, monthly expenses and net income of the farmers. Frequency analysis was done to obtain information such as gender, age, marital status, employment status, area of paddy land and per season income, employment other than cultivating paddy, the type of assistance from MADA and the problems faced by paddy farmers.

FINDINGS

Table 2 shows the gender and age of the respondents. The number of male respondents work as paddy farmers is higher than female respondents. 82 percent of the respondents are males and 18 percent are female respondents. About 23 percent of the respondents are above the age of 50 years, while another 8 percent of the respondents are between the age 31-35 years old. 21 percent of the respondents are aged between 46-50 years old and 20 percent of respondents is aged between 36-40 years old. This shows that the number of young people is decreasing due to lack of interest in this agriculture sector.

Table 2

Gender and Age of Respondents

Gender	Frequency	Percent
Male	123	82%
Female	27	18%

(continued Table 2)

Age	**Frequency**	**Percent**
< 31 years	12	8%
31-35 years	19	13%
36-40 years	30	20%
41-45 years	22	15%
46-50 years	32	21%
> 50 years	35	23%
Total	**150**	**100**

Table 3 shows the marital status and number of dependents of respondents. Most of the respondents who are involved in paddy cultivation are already married which contribute 73 percent of the respondents, followed by widowers / widows approximately 16 percent, and unmarried respondents about 11 percent.

The results showed that the number of respondents with the highest number of dependent which is between 3-4 children is about 42 percent, followed by 28 per cent of respondents who have 5-6 children. A total of 20 percent who do not have dependents are those who are unmarried or widows / widowers.

Table 3

Marital Status and Number of Dependents

Marital Status	**Frequency**	**Percent**
Single	16	11%
Married	109	73%
Widows/widowers	25	16%
Number of dependents		

(continued Table 3)

1-2 people	15	10%
3-4 people	63	42%
5-6 people	42	28%
None	30	20%
Total	150	100%

Table 4 shows that 38 percent of respondents have been paddy farmers for more than 15 years, while 30 percent of respondents have been paddy farmers for 6-10 years. Only 14 percent have been paddy farmers for 1-5 years. A total of 78 percent of respondents surveyed chose paddy farming as their main source of income, while the remaining 22 percent of respondents chose this work as a part-time job.

Table 4

Duration and Status as a Paddy Farmers

Duration	**Frequency**	**Percent**
1 – 5 years	21	14
6 – 10 years	45	30
11 – 15 years	27	18
>15 years	57	38
Status of work		
Main	117	78
Part-time	33	22

The data obtained showed that 40 percent of respondents earn a net income of RM 600 - RM1,000 per month, while 46 percent of respondents obtain net income between RM1,100 - RM2,000. Only 8 percent of respondents earn more than RM2,000 per month.

Table 5

Income of respondents

Income	Frequency	Percent
RM 100 - RM500	9	6
RM 501 - RM1,000	60	40
RM 1,001 - RM1,500	36	24
RM1,501 - RM2,000	33	22
> RM 2000	12	8
Total	150	100

Classification of the ownership of paddy land can be categorized into self-owned land, land rented and leased land. A total of 50 percent of respondents rent land from other owners, while 46 percent cultivate paddy on their own land. Only 4 percent of respondents lease land to cultivate paddy.

Most of the farmers work on paddy fields with a total area of 3 - 4 hectares, while 22 percent of respondents work on paddy fields area of less than three hectares. However, the number of farmers working on paddy fields with a total area of more than six hectares is about 4 percent.

Table 6

Land Ownership and Paddy Field Area

Ownership	**Frequency**	**Percent**
Self-owned	69	46
Rent	75	50
Lease	6	4
Land Size	**Frequency**	**Percent**
< 3 hectares	33	22

(continued Table 6)

Land Size	**Frequency**	**Percent**
3 - 4 hectares	84	56
5 - 6 hectares	12	8
> 6 hectares	21	14

The study found that a large number of paddy farmers which is about 82 percent have capital problem. In order to solve the problem, most of the farmers have to borrow from the paddy brokers or banks. Only 18 percent of farmers do not have capital problems because they have their own savings or received assistance from family members.

Pest problems are frequent problems faced by most farmers that affect their paddy production. The main types of paddy pest are slugs and rats. A total of 74 percent of respondents have this pest problems, while the other pest problem faced by farmers is white grubs.

Table 7

Problems Faced by Farmers

Capital problems	**Yes**	**No**
	82%	18%
Pest problem	**Frequency**	**Percent**
Slugs	9	6
Slugs and rats	111	74
Slugs, rats and grubs	18	12
Grubs	12	8
Total	150	100

Table 8 shows the types of grants received by paddy farmers from MADA. Almost all farmers receive subsidized fertilizer and pesticides, which totaled about 98 percent and 96 percent respectively.

However, the percentage of financial assistance, plowing and water pumps that were given to farmers is small.

Table 8

Types of Assistance of the MADA

Types of assistance	Percent
Fertilizer	98
Pesticides	96
Machinery	8
Finance	4
Water pump	2

CONCLUSION

This study shows that about 86 percent of farmers under MADA management of Pendang district, Kedah the net income of RM600 to RM2000 per month. Most of the paddy farmers work on rented paddy fields or leased from other owners. A total of 78 per cent work full time as paddy cultivators, with 56 percent of farmers have been in this field for more than 11 years. Almost all farmers get subsidized fertilizer and pesticides from MADA management but not many farmers receive assistance in terms of machinery, water pumps and financial aid.

REFERENCES

Abdul Aziz Rahman., & Derendra Prasad Yadar. (1990). Impact of credit on paddy farm production and income: A comparative study of Tanjung Karang and Beranang. *The Malaysian Journal of Agricultural Economics, 1*, 1-23.

Abdul Wahid Azhari. (1986). Estet padi: Satu pemerhatian awal FELCRA (Eds.), *Proceeding of the National Rice Conference*, pp.139-152.

Bahagian Pengurusan Wilayah. (2005). Lembaga Kemajuan Pertanian Muda (MADA). Retrieved from http://www.mada.gov.my/v1/bahagian /pegurusan Wilayah.php

Barker, R., Herdt, R.W., & Rose, B. (1985). *The rice economy of Asia*. Oxford: RFF Press.

Embi Yussoff. (1986). Rice production in West Malaysia-technology needs in the next decade. *Proceeding of the National Rice Conference 1986,* pp.307-329.

Estet Padi. (2005). Lembaga Kemajuan Pertanian Muda (MADA). Retrieved from http://www.mada.gov.my/bangun/img/top.jpg

Hamid Mat., & Shuib Hashim. (1979). *Orientasi nilai dan sikap petani-petani padi terhadap Pembangunan*. Dalam. Laporan Seminar Penanam-Penanam Padi Negeri Perlis. Perlis: Lembaga Kemajuan Penanam-Penanam Padi.

Lembaga Kemajuan Pertanian Muda (MADA). Latar belakang MADA. (2005). Retrieved from http://www.mada.gov.my/v1/profil/latar.php

Lembaga Kemajuan Pertanian Muda (MADA) (2005). Projek padi 10 tan. Retrieved from http://www.mada.gov.my/bangun/img/top.jpg

Masatsugu, M. (1972). *Cara pengendalian perniagaan yang berjaya*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Mohamad Maulana. (2004). Peranan luas lahan, intensitas pertahanan dan produktivitas sebagai sumber pertumbuhan padi sawah di Indonesia 1980-2001. *Jurnal Agro Ekonomi, 22,* 74-95.

Mohd Ariff Hussein., & Rajbanshi, N.B. (1985). An economic analysis of marketable surplus of paddy in Kathmandu Nepal. *Malaysian Journal of Agricultural Economics, 2,* 54-62.

Mokhtar Ibrahim., & Ismail Che Haron. (1986). Pengalaman perlaksanaan perusahaan padi secara komersial (Estet). *Proceeding of the National Rice Conference,* pp.249-264.

Sumardjo. (1999). *Transformasi model penyuluhan pertanian menuju pengembangan kemandirian petani*. Bogor: Pasca Sarjana.

Suratiyah, K. (1977). Pengaruh status tanah garapan pada usahatani padi sawah di Desa Mendungan, Bogor. *Agro Ekonomi*, 88 - 95.

Syed Ahmad Almahdali. (1986). Status and problems of paddy production in Muda Irrigation Project. *Proceeding Of The National Rice Conference 1986,* pp.87-101.

Zaleha M. Noor., & Mohd Ariff Hussein. (1986). The impact of free fertilizer subsidy scheme on economic efficiency of paddy farmers in West Malaysia. *Journal of Agricultural Economics, 3,* 12-29.

Zulkefli A. Hassan. (1986). Pengeluaran beras di dalam kawasan projek pembangunan pertanian Bersepadu (Eds.), *Proceeding of the National Rice Conference,* pp.265-275.